temperature, directly to the effluent as a catalyst which is subsequently discharged into the environment.

US '063 describes contacting non-photographic wastewater containing offensive substances such as ammonia, cyanide and sulphur-containing compounds, with a source of oxygen over a catalyst comprising a combination of a Group VIII and a Group VIA metal, such as NiMo, or a compound thereof, on a support, such as activated carbon or an ion-exchange resin, at a temperature of from about 50°C to about 200°C.

The present invention concerns the use of a catalyst, specifically a transition metal catalyst, immobilized on a substrate, such as an ion exchange resin, in the process of treating reduced species in waste effluent with hydrogen peroxide, the process taking place at room temperature.

DE '219 does not support the catalyst on a support, rather it is added as a solution to the thiosulphate solution and the solutions stirred. It is clear from the specification that the effluent is discharged directly into the environment, such that the transition metal ions are not reusable.

In the Applicant's case the transition metal ions are adsorbed onto a substrate, such as an ion exchange resin, with the result that there is very little transition metal discharge, giving an environmental advantage, and that reuse of the resin can lead to economic advantages. From pages 7 and 8 of the specification it will be seen that an experiment conducted using mL of 1% ammonium molybdate, firstly adsorbed onto resin and then repeated added directly to the effluent, resulted in final levels of Mo on the effluent in ppm of 0.55 to 86 respectively, clearly a substantial advantage of the invention.

The Examiner has attempted to overcome the deficiency in DE '219 by citing Yan, which show the use of an ion exchange resin to immobilize a combination of transition metal catalysts. There are however several points of difference: Yan does not relate to photographic effluent, requires elevated temperatures, uses air as the oxygen source and teaches the preferred use of a combination of metals, and not their oxidized forms (see col. 5, lines 64 and 65), or sulfide catalysts. Yan states that the catalyst can be activated by reduction which leads away from the catalysts preferred in the present invention.

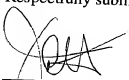
Regarding the means of oxidation it is expressly stated on col. 8, lines 9-13 that air is the preferred source of oxygen, that ozone or molecular oxygen can also be used but that hydrogen peroxide is not contemplated to be intentionally added as a source of oxygen for this process. This clearly teaches away from the present invention where the claim is limited to the use of hydrogen peroxide or a compound capable of releasing hydrogen peroxide, such as sodium percarbonate or benzyl peroxide.

The Examiner has quoted col. 2, lines 0-310 of Yan as specifically disclosing that supported transition metal catalysts result in little of the metal catalyst being leached from the surface of the support and remaining in the treated effluent. The Applicant does not however read this as the teaching of this section which merely states that the object of the process is to leave a low concentration of metal compound in the treated wastewater.

It is submitted that the references cited by the Examiner alone or in combination do not teach or render significant patentable advance has been made over the German reference and the Yan reference teaches away specifically from the present invention so that there these references in combination to achieve the environmental and economic advantages thereof.

The above amendments and remarks obviate the grounds for the rejection. Applicants respectfully request withdrawal of the rejection and issuance of a Notice of Allowance in due course.

Respectfully submitted,



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